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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,960	04/11/2001	Moredechai Shefer	1236/8	8237

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EXAMINER

HUNG, YUBIN

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 01/30/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,960

Applicant(s)

SHEFER, MOREDECHAI

Examiner

Yubin Hung

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7,9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Oath/Declaration

1. The filing date of April 26, 2000 for Application No. 60/199,116 listed in Oath/Declaration is inconsistent with the Office's record, which indicates a filing date of April 24, 2000.
2. The claim for domestic priority in the declaration is improper because the wrong statute (35 USC § 120) was cited. The correct statute for claiming domestic priority to a provisional application should be 35 USC § 119(e).

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Fig. 3, numeral 30. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the term "singled color images" in Line 1. This term is not well known in the art nor is it defined in the specification. Claims 2-6, being dependent on claim 1, are similarly rejected.

(Note: Hereinafter, for examination purpose a "singled color image" will be interpreted as a scalar-valued image (e.g., gray-scale) derived from a color image.)

7. Claims 3, 5, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are:

- Eqn. 2 recited in claim 3
- Eqn. 3 recited in claim 5
- Eqn. 8 recited in claim 8

The equations need to be spelled out.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman et al. (US 5,991,456), in view of Waxman et al. (US 5,909,244).

10. Regarding claim 1, Rahman et al. discloses a method for singled color images, comprising:

- computing a light dynamic range compressed image
[Fig. 2, numerals 20-24; Col. 5, line 26 – Col. 6, line 21, especially Eq. (8). Note that $I_1(x,y)$ is interpreted as a singled image and $(\log I_1(x,y) - \log I_1(x,y) * F_1(x,y))$ its corresponding light dynamic range compressed image]
- computing a dark dynamic range compressed image
[Fig. 2, numerals 20-24; Col. 5, line 26 – Col. 6, line 21, especially Eq. (8). Note that $(\log I_1(x,y) - \log I_1(x,y) * F_2(x,y))$ is interpreted as the dark dynamic range compressed image]
- computing a balanced dynamic range compressed image, using said light and dark dynamic range compressed images
[Fig. 2, numerals 20-24; Col. 5, line 26 – Col. 6, line 21, especially Eq. (8). Note that $(W_1(\log I_1(x,y) - \log I_1(x,y) * F_1(x,y)) + W_2(\log I_1(x,y) - \log I_1(x,y) * F_2(x,y)))$ is interpreted as the balanced dynamic range compressed image]

Rahman et al. fails to disclose that the light and dark dynamic range compressed images are normalized and that the balanced dynamic range compressed image is computed from the normalized light and dark dynamic range compressed images.

However, Waxman et al. teaches the use of a compressed, normalized dynamic range [Col. 3, line 60 – Col. 4, line 2].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rahman et al. by normalizing the light and dark dynamic range compressed images as taught by Waxman et al. in order to insure that they are within the dynamic range of the output device such as a monitor, as is commonly practiced in the art.

11. Claims 2 and 4 are similarly analyzed and rejected as per claim 1.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman et al. (US 5,991,456) and Waxman et al. (US 5,909,244) as applied to claims 1, 2, 4 above, and further in view of Matama (US 6,101,273).

Regarding claim 6, the combined invention of Rahman et al. and Waxman et al. teaches everything except for the following, which Matama teaches:

- the computation of said light and dark normalized dynamic range compressed images includes using look-up tables
[Fig. 1, numeral 19; Col. 10, lines 1-2.]

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined invention of Rahman et al. and Waxman et al. by using look-up tables as taught by Matama in order to improve efficiency since complicated arithmetic operations are now replaced by memory access.

Allowable Subject Matter

13. Claims 7, 9 and 10 are allowed.

14. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. Claims 3 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter.

17. Regarding claim 3, and similarly claim 5, although the closest prior art of Rahman et al. (US 5,991,456) teaches the computation of a light dynamic range compressed image (per claim 1), it does not carry out the computation according to Eqn. (2) of the specification..>

18. Regarding claim 7, the prior art of record fails to teach or suggest, alone or in combination, a method for dynamic range compression and color reconstruction of a color image, comprising, along with other recited limitations,

- dividing said balanced dynamic range compressed norm by the original norm
- reconstructing each color by multiplying each original color by a quotient of said balanced dynamic range compressed norm divided by the original norm

Although the closest prior art of Rahman et al. (US 5,991,456) and Waxman et al. (US 5,909,244) in combination teaches the computation of a single original norm and its corresponding balanced dynamic range compressed image (per claim 1) as well as the reconstruction of each color [Rahman et al.: Fig. 2, numerals 25 & 26; Col. 6, lines 18-21], they do not teach dividing said balanced dynamic range compressed norm by the original norm to generate the multiplication factor for the color reconstruction.

Contact Information


19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed, to the receptionist whose telephone number is (703) 305-4700.

Yubin Hung
Patent Examiner
January 22, 2004



BHAVESH M. MEHTA
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